

Claims:

1. A transferring pressure roll which press-bonds a transferable protective layer onto an ink jet-recorded image surface by pressing a laminated sheet under heating from a side of a transferring film, the laminated sheet including a recording material having the ink jet-recorded image surface with numeral raised portions having a height of from 5 to 20  $\mu\text{m}$  formed on a recording sheet at a pitch of from 50 to 500  $\mu\text{m}$  and the transferring film having the transferable protective layer provided on a heat-resistant substrate made of a polyethylene terephthalate film laminated on each other in such an arrangement that the ink jet recording surface and the transferable protective layer are opposed to each other, the transferring pressure roll comprising:

a cylindrical roll main body; and  
an elastic material layer which covers a surface of the roll main body and comes in contact with the transferring film during pressing,

wherein a hardness of the elastic material constituting the elastic material layer is set in a value less than HA40 as measured by a measuring method defined in JIS-K6253.

2. The transferring pressure roll as defined in Claim 1, wherein the elastic material is any of silicone rubber, natural rubber, synthetic natural rubber, styrene rubber,

butadiene rubber, chloroprene rubber, butyl rubber, nitrile rubber, ethylene propylene rubber and fluororubber.

3. The transferring pressure roll as defined in Claim  
5 1, wherein the thickness of the elastic material layer is from 0.2 to 5 mm.

4. A transferring unit comprising:

a laminated sheet forming portion forming a laminated  
10 sheet by laminating a recorded material and a transferring film in such a manner that a transferring film having a transferable protective layer provided on a heat-resistant substrate made of a polyethylene terephthalate film is fed onto the recording material having an ink jet-recorded image surface with numeral  
15 raised portions having a height of from 5 to 20  $\mu\text{m}$  formed on a recording sheet at a pitch of from 50 to 500  $\mu\text{m}$ , so that whereby the ink jet recorded surface and a surface of the transferable protective layer are opposed to each other;

a press-bonding portion heating and pressing the  
20 laminated sheet for press-bonding the transferable protective layer onto the ink jet-recorded image surface; and

a peeling portion peeling the heat-resistant substrate off the laminated sheet passed through the press-bonding portion,

25 wherein the press-bonding portion includes a

transferring pressure roll as defined in Claim 1 and a receiving member and is arranged such that the laminated sheet is passed through a gap between the transferring pressure roll and the receiving member.

5

5. The transferring unit as defined in Claim 4, wherein the thickness of the heat-resistant substrate is from 4 to 20  $\mu\text{m}$ .

10

6. The transferring unit as defined in Claim 4, wherein the thickness of the transferable protective layer is from 2 to 20  $\mu\text{m}$ .

15

7. The transferring unit as defined in Claim 4, wherein the transferable protective layer is selected from the group consisting of acrylic copolymer, acryl-styrene copolymer, vinyl acetate resin, vinyl acetate copolymer, vinyl chloride-vinyl acetate copolymer, vinyl chloride-acryl copolymer, vinyl acetate-acryl copolymer and acryl-silicone copolymer.

20

8. An ink jet recording apparatus comprising:

an ink jet recording portion forming an ink jet image by injecting an ink onto a recording surface of a recording sheet including numeral raised portions having a height of from

25

5 to 20  $\mu\text{m}$  formed thereon at a pitch of from 50 to 500  $\mu\text{m}$  to form an ink jet image thereon; and

a protective layer forming portion for subjecting a transferring film including a transferable protective layer provided on a heat-resistant substrate made of a polyethylene terephthalate film to heat transfer so that the transferable protective layer is transferred onto the recording surface on which the ink jet image is formed,

wherein the protective layer forming portion is formed by a transferring unit as defined in Claim 4.